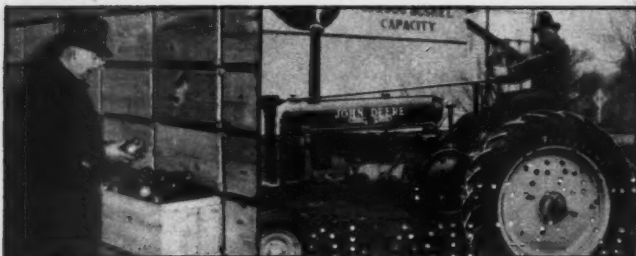


AMERICAN FRUIT GROWER

MERRY
CHRISTMAS



PRUNING NUMBER
DECEMBER 1938



JAY GELDER — Champion apple grower of northern New York has made a big business of his 1300 acre orchard and large roadside stand from which he sold \$32,345.00 worth of apples, vegetables, cider, honey and flowers at retail last year.



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CARL B. BENDER — Molasses silage pioneer at the North New Jersey Dairy Experimental Station — advocates grain silage for its higher food value.



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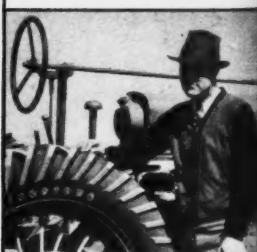
E. D. FUNK — On a 2200 acre farm produces hybrid seed corn which yields 5 to 35 bushels per acre more than average open-pollinated varieties.



PAUL STIEFBOLD — Scored 96 points out of a possible 100 in the national plowing contest at Wheatland — the highest score using a tractor in the history of the meet.



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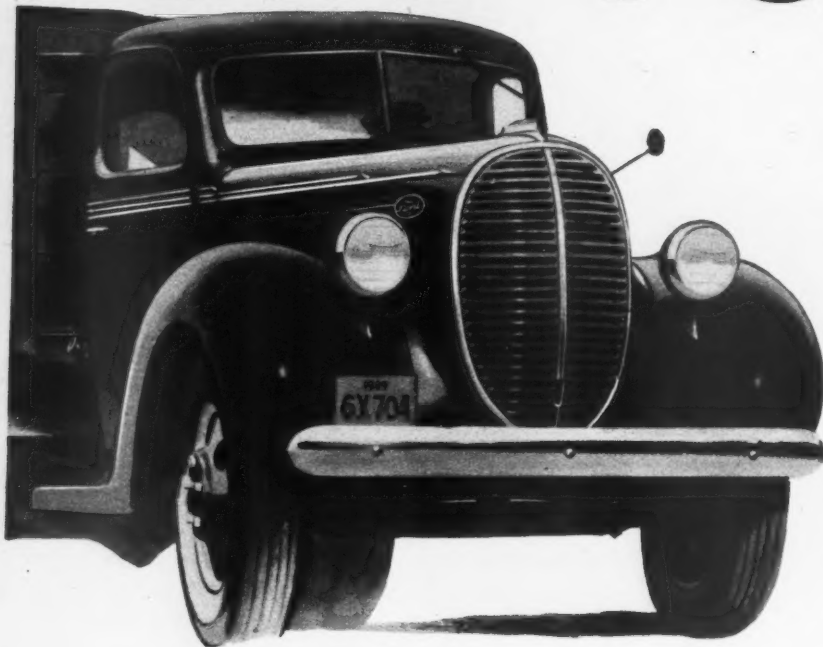
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THE TRUCK FOR THE JOBS OF 1939 FORD V-8



THIS YEAR Ford gives economy a new meaning — over a wider range of truck operations than ever before.

To the time-proved 85-hp. and 60-hp. V-8 engines is added the new 95-hp. V-8 engine for greater power and speed. It is available in all trucks except the one-tonners. There are new hydraulic service brakes for quick, straight-line stops, with easy pedal pressure.

For 1939 there are 42 body and chassis types, with a choice of equipment including factory-installed two-speed rear axle, optional gear ratios, transmissions, clutches.

Ten billion miles of payload performance have proved the Ford V-8 engine and the rugged, dependable construction of Ford Truck chassis equal to the toughest jobs.

Ford economy is a fact established by actual performance on the farm. Ford economy means that Ford V-8 Trucks are built to do more work, in less time, at lower cost.

If you want to know why there are more Ford Trucks on the road than any other make, examine the Ford Truck. See the 1939 V-8 units. Match them feature for feature with any other trucks of comparable size and price. Know the difference before you spend another truck dollar.

Arrange through your Ford dealer for an actual "on-the-job" test.

HIGHLIGHTS OF THE 1939 FORD V-8 TRUCKS

- **NEW 95-HORSEPOWER V-TYPE EIGHT-CYLINDER ENGINE** — Ford now widens the range of power available for Ford Trucks, by offering the new 95-hp. V-8 engine in addition to the improved 85 and 60 hp. V-8 engines.

- **NEW HYDRAULIC BRAKES** — Four-wheel hydraulic service brakes, built to Ford standards of safety, are regular equipment on all 1939 Ford Trucks. All trucks except the one-tonners have completely independent hand brake system with separate, mechanically operated brakes inside rear brake drums.

- New-type piston rings for improved oil economy.

- All-steel cabs, insulated, ventilated and with Safety Glass throughout.

- 34-inch frame width standard on all units.

- Improved Semi-Centrifugal Clutch—low pedal pressures — high power transmitting capacity.

- Easy, dependable steering — worm-and-roller type.

- Full torque-tube drive.

- Straddle-mounted driving pinion — ring gear thrust plate.

- Full-floating rear axle.

- Factory-installed two-speed rear axle available at extra cost.

- Ford Engine and Parts Exchange Plan. Saves time. Saves money. Avoids long, costly layovers.

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FRUIT FORECAST FOR 1939

MOST significant trend in future fruit production is increased citrus crops. Far and away, the greatest boost in production is for grapefruit. The bearing acreage of this largest member of the citrus group has rapidly enlarged during recent years so that production is sharply upward. To a lesser degree, orange and lemon crop sizes are expected to expand, while more moderate increases are in the offing for pears, peaches, plums, and prunes. Although marked changes in other fruits are not likely during the next five-year period, forecasts issued by the U.S.D.A. indicate that apple production will be lessened at a moderate rate.

Chief reason for the upward trend of national pear production is larger output in Washington, Oregon, and California. Crops in other areas are likely to expand only slightly during the next few years. Large numbers of young trees reaching full bearing will cause the step-up in production even though totals of newly planted trees have been small. A decided neglect of orchards has been noted in areas where commercial production lags. Plantings in the prominent producing sections, however, have received attention and good care during the 1937-38 season. Largest crop on record during past harvest season has held down prices, but gradually improving demand, say the U. S. investigators, is in prospect for the remainder of season. Based on smaller European crops, large supplies here, and the establishment of more favorable trade relations, the pear export situation is looking better.

A study of the grape outlook centers mainly in California where large crops of the past two years have caused the establishment of proration measures to aid marketing. Indicated 1939 bearing acreages for various types in California are: raisin varieties 240,000 acres, wine varieties 173,000, and table varieties 81,000 acres. Average production in future will probably be slightly more than the 1927-36 figure of 1,929,000 tons, but may be less than the average of 2,395,000 tons for bumper crops of 1937 and 1938. It is expected that there will be some decline in production for grape regions outside of California. All regions report few plantings in recent years. Census figures show a decrease in bearing and non-bearing vine numbers in New York, leading eastern grape producing state. Latest reports from Ohio and Michigan also reflect this downward trend.

Dangers of over-expansion due to favorable outlook for peaches are stressed in the peach forecasts. The U.S.D.A. reports that if planting continues at an equal or greater rate than in recent years, supplies five to 10 years hence may be excessive. Leading states where expansion of the peach industry is taking place include Georgia and South Carolina in the South; Illinois, Pennsylvania, Virginia, and West Virginia in the areas marketing mainly in August; and Michigan, New York, and Ohio in the Great Lakes region. The average annual production in the next five years is likely to be somewhat greater than the 1933-37 average of 51,000,000 bushels. Peach market for the fresh fruit looks to be favorable for the future if the dangers of over-planting are avoided. Clingstone production in California has been in excess of market requirements so there is an overstock of canned peaches in that section. In recent years there have been considerable quantities of freestone peaches used for commercial canning.

Bearing apple trees in the United States are expected to decrease in number. This decrease will bring a moderate curtailment in production. The number of non-bearing trees is lower than usual right now and if plantings of new stock continue as sparse as they have in the past several years the pro-

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The
NATIONAL FRUIT MAGAZINE

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THE NEW TRADE AGREEMENTS

AT THIS writing, full details of the new Trade Agreements with the United Kingdom have not been examined. But that they are portent of decidedly better trade relations so far as the fruit industry is concerned, is perfectly clear. There will be many who would have hoped that they would be still more favorable but, surely, they represent a decided improvement in a situation that was quite unfavorable. They should either increase the prices on export apples by the amount of the decreased duty or remove pressure from domestic markets sufficiently to raise the domestic price, or both.

With one-third reduction in the apple duty from August 16 to April 15 and the same for pears from August 1 to January 31, there can be more profit in the fruits that are shipped to England. Whatever reductions are made with Canada will assist in lowering a duty wall which had become almost impregnable. The agreement with Canada should also be helpful particularly in years of low Canadian production.

Several factors contributed to a serious decrease in apple exports since 1930. The size of the crop in the United States, the relative demand in this country and in the importing countries, the size of the crop abroad, and trade barriers, all played a part.

It will be recalled that apples were exported from the United States from the days of Benjamin Franklin, but it was not until the middle of the nineteenth century that exports exceeded 300,000 bushels per year. Then exports increased sharply and by 1880 the three million mark had been passed. By 1900 six million bushels left our shores. This trend continued upward until the World War, but it increased again until some twenty-one million bushels or 17 per cent of the commercial production was shipped abroad. With trade barriers, sanitary measures, and quotas in force the exports declined sharply.

An intensified economic nationalism began to manifest itself soon after the War, but was not widespread until the world-wide depression of 1930. Countries heretofore content to trade on an almost free trade policy closed their doors and strongly encouraged independent self sufficiency. Now there is a fruition of efforts by the State Department to establish more favorable relations and the degree attained in this latest act will certainly be helpful and bring encouragement to those who look to the export trade as an outlet for their crops.



The Model 10-20, like all McCormick-Deering Tractors, delivers its power three ways—on the power take-off, as shown above, the drawbar, and belt.

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You can get the complete story about this tractor and the smaller McCormick-Deering 0-14 from the McCormick-Deering dealer in your community. See these tractors today. Find out how they can make more money for you, not just for the season ahead but for many years to come.

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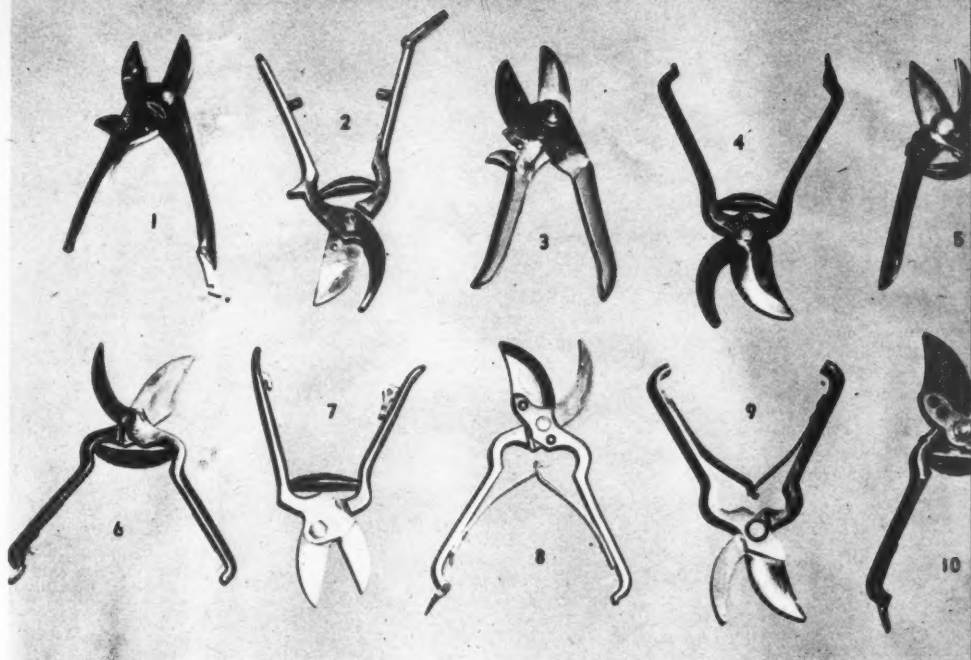
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PROFITABLE PRUNING

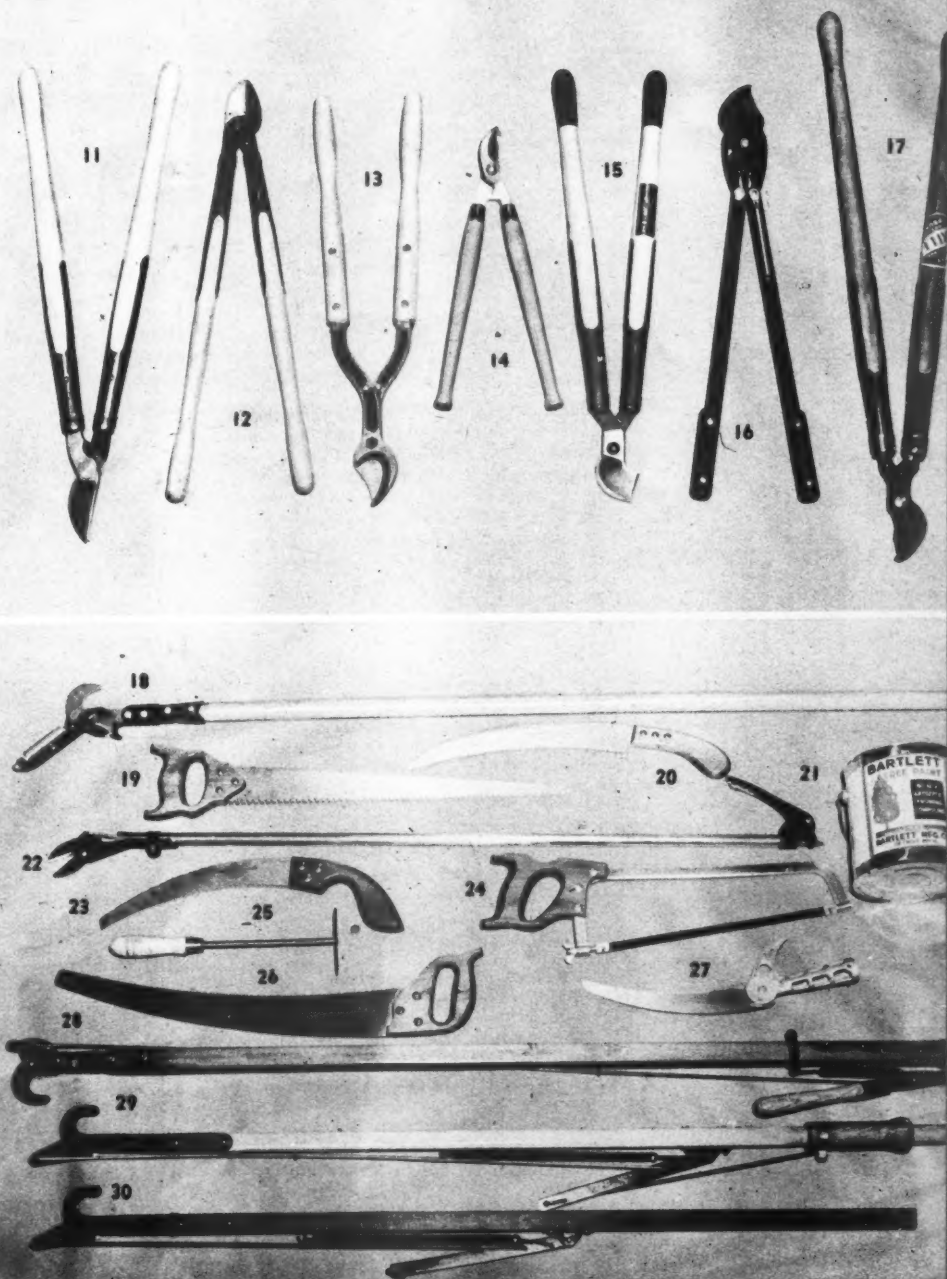
WITH PROPER TOOLS

By WM. H. ZIPF

NO phase of modern fruit culture is based more on age-old experiences than pruning. From earliest times proper pruning of bearing fruit trees has been a cherished art to the horticulturist. A glance backward into history reveals that the early plant workers based their pruning procedure on the trial and error basis. They knew, for instance, that heavy pruning of a young tree kept it from bearing early and resulted in a general dwarfing of the entire tree. Through their keen observation, some of our fundamental pruning facts were established many years ago. Since then research workers have shown that heavy pruning of young stock ultimately results in dwarfing of the root system, fatal to good tree growth.

Not to be omitted when the improvement of pruning through the years is considered are the many advancements made in pruning equipment. Through the use of better pruning tools, the modern orchardist is enabled to take care of many more trees than was possible with the crude hand shears or knives and tree-tearing cumbersome saws used by early horticulturists. Today, fruit growers and their orchard workers have available efficient, easy-to-operate pruning tools which vary in size from the latest-type "anvil" principle hand shear to the long-pole pruners that allow

(Continued on page 11)



SUCCESS WITH EVERBEARERS



Each year the Murphy plants are dug from the planting in late fall, crowns are split and the plants held over winter, to be set again in the spring. Thus by multiplying his plants, Mr. Murphy is able to increase his acreage each year, to select only the better-producing stock, and to keep constant check on performance. In circle above are shown blossoms on the plants after three heavy frosts. Photograph was taken this year on October 26.

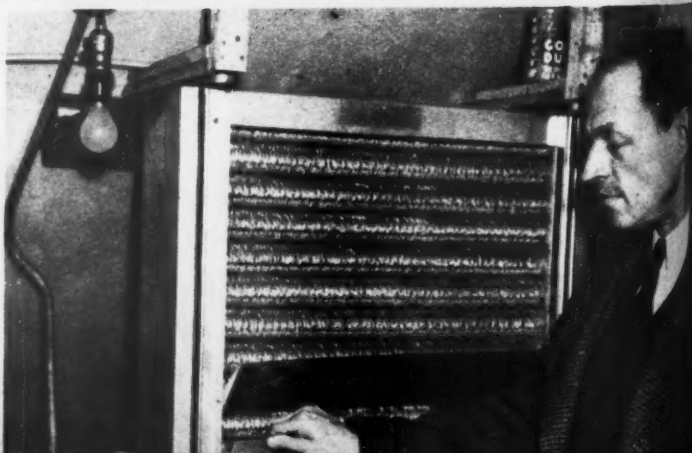
Right—Mr. Murphy proudly looks over a tray of his choice berries which were ready for market on October 27. By thus controlling his production, this strawberry enthusiast is able to command top prices for off-season fruit. For this tray, Mr. Murphy received \$2.15 from the retailer. At no time this year has he received less than \$1.85. To produce fruit like this he believes a well-drained, slightly-acid, sandy soil is best. And Mr. Murphy says that strawberries need a complete fertilizer.

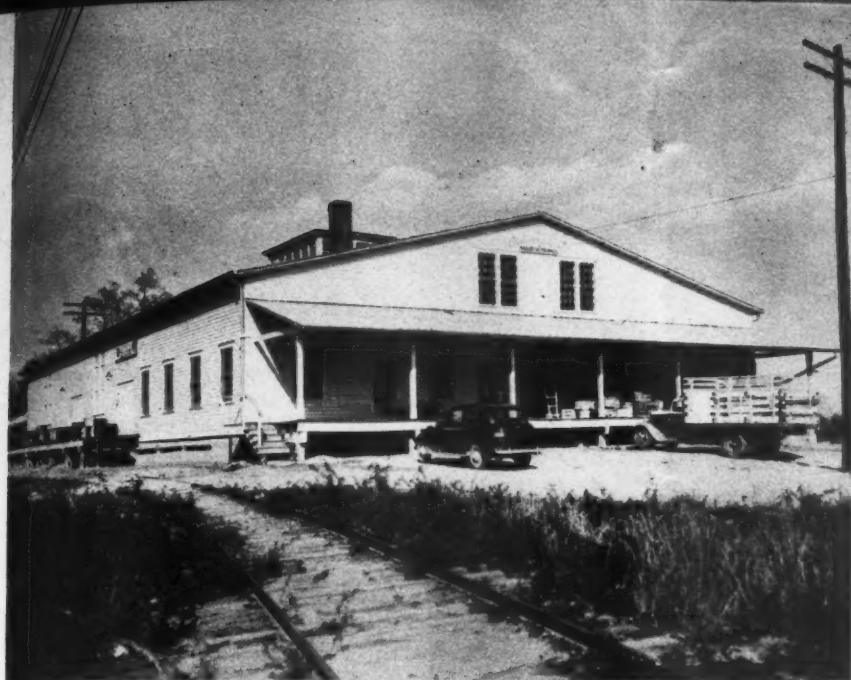
By progressive plant selection, careful irrigation and other cultural practices, and control of pests, Mr. Murphy is striving toward a goal of a quart per plant for annual strawberry production. This would net him upwards of 25,000 quarts an acre. Although grubs and other pests trouble him at times, he's well on the road to attainment of that goal. He's tried the other everbearing varieties, but likes his own origination and continues to plant it. At right Mr. Murphy is shown adjusting a fin on his strawberry storage blower unit. The storage is an important part of his marketing setup.



SETTING about 27,000 of his selected ever-bearing strawberry plants to the acre, and irrigating them during the entire season, E. A. Murphy of Franklin, Mich., has enjoyed marked success with his strawberry planting. Mr. Murphy first started with the Wayzata variety and from it he has developed a superior type known as the Mt. Tom. Mr. Murphy is shown above at door of his strawberry cold storage located on the edge of the patch.

The three-acre Murphy planting consists of plants set 15 to 18 inches apart in the row with rows about same distance apart. A 30-inch picking middle is left every three rows. Plants are set in the spring as soon as ground can be worked, this year on March 28. So advanced is development of Mr. Murphy's variety that plants will blossom 30 days after planting. Blossoms, however, are pinched off until July 1 when the first blossoms are allowed to set. This, contends Mr. Murphy, permits the plants to store up energy for heavy fruit production later in the season when higher prices prevail. Straw or hardwood shavings are used as mulch. Above is shown intake pipe used for obtaining cold water from creek for use in refrigeration condenser.





CASHING-IN ON COLD STORAGE

Ten ambitious Georgia growers in the vicinity of Clarkesville set out in the spring of 1937 to provide modern storage facilities for their Black Winesap, Black Twig, Ben Davis, Stayman Winesap, and Red Winesap apples. The construction of this storage has ended a multitude of struggles encountered in storing their crops previous to the time the storage was available. Capacity of the project is 24,000 bushels. Location is beneath the growers' apple and peach packing house. Now known as the Co-operative Packing and Storage Association, this group of 10 finds that the three-room, fully-equipped cold storage, besides being of paramount importance in the marketing of their own crops, will also accom-

modate fruit of a few outside growers. Temperature in the storage is maintained at from 34 to 38 degrees. Fruit has been held in the storage until May 1 in good condition.

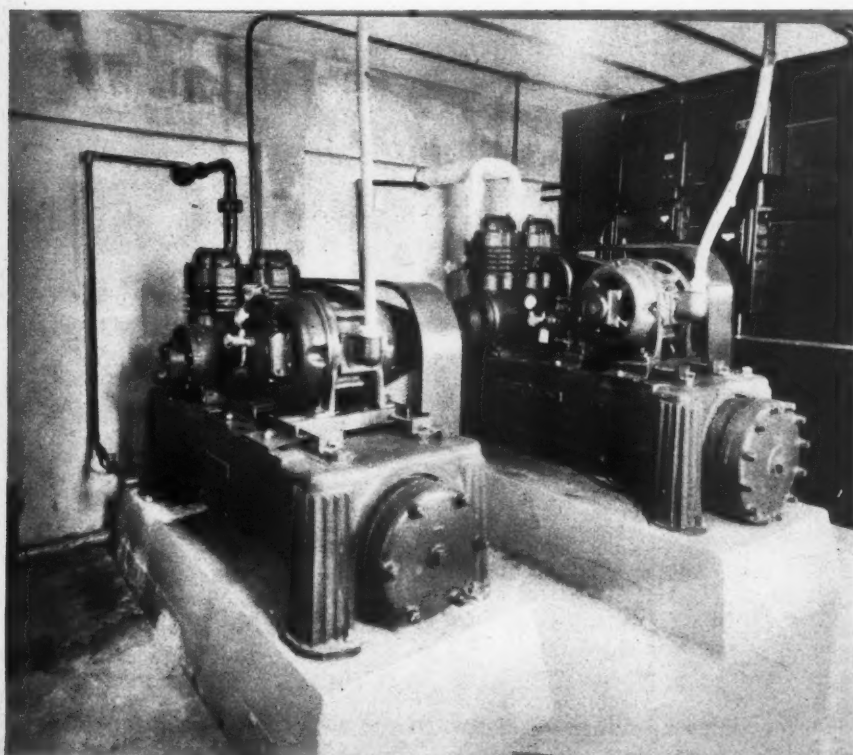
Above, left—Co-operative Packing and Storage Association packing house and cold storage at Clarkesville, Ga.

Above, right—L. G. Moultrie, association officer, inspects stacked fruit in one of the three storage rooms.

Right—Packing plant foreman L. G. Crumley displays a sample from the apple pack held during market season.

Below, right—Interior of one of storage rooms showing compact blowers that cool and constantly circulate storage air.

Below—This pair of compressor units accounts for maintenance of proper temperatures in fruit storage rooms.



APS

A PAGE CONDUCTED IN THE
INTERESTS OF THE AMERICAN
POMOLOGICAL SOCIETY

LOOKING BACK ON 1938 —AND AHEAD TO 1939

AS the fiscal year nears an end, we are pleased to report that the American Pomological Society has made some material gains in membership, and the support accorded the society by the state horticultural societies and the allied industries has enabled the society to live within its income and to have a balance remaining in the treasury. The proceedings of the 1937 convention held at Springfield, Mo., has been well received and frequently some of its leading papers have been printed in other mediums. The paper presented by Dr. H. E. Barnard, technical director of Farm Chemurgic Council, entitled, "The Value of Fruit in Adequate Nutrition," has been given wide publicity. This paper is an example of the educational value of the programs which have been presented at each of the American Pomological Society conventions during recent years. When the consuming public becomes conscious of the real value of fruit in the diet, there is little doubt but that the consumption of fruits will be materially increased. Such an increase will not only be of value from the standpoint of public health, but will react favorably in disposing of our national fruit crops at a profit.

During the past year the society has been successful in carrying out the projects which were initiated for definite action during the past years. The various state horticultural societies have co-operated in many important matters, and on several occasions the APS has been successful as acting as spokesmen for the fruit industry. An example of the service to pomology is that in connection with the research dealing with the lead residue tolerance problem. The APS has been consistent in its work in presenting the subject, organizing the background of research necessary to secure modification of lead

tolerance, and has also been successful in drawing the U.S. Public Health Service into the picture. Extensive research has been conducted during the past season by the Public Health Service in an effort to determine whether or not the spray materials now commonly used in protecting fruit were detrimental to public health. Preliminary reports by the Public Health Service were followed carefully by the APS and a further upward revision of the lead residue tolerance was asked for as a result of these researches. Secretary of Agriculture Henry A. Wallace made an upward revision effective insofar as lead residues were concerned. The new tolerance of .025 grain of lead per pound of fruit was gratefully received by the entire apple industry.

The organizing and sponsoring of the National Apple Institute by the APS was a notable achievement. This organization focused attention on the need for better sales promotion for apples, also it was the inspiration for the organization of the various regional institutes, and because of its deliberate choice of the national promotion of the use of apples in contrast to regional variety sales and service, it is growing stronger and more useful. Its influence in getting apples included in the research program of the Eastern Regional Agricultural By-products Laboratory is an outstanding achievement. It was a notable achievement to succeed in unifying the apple growers of the United States behind a concerted movement to increase the use of apples. The National Apple Institute suggests a technique for dealing with other service problems which arise in connection with the promotion of the use of other kinds of fruit.

Another project that is now sharply focused is that of devising a

method for keeping low grade fruits out of competition with high grade fruits in the fresh fruit markets. This has been a debatable question for as far back as many of us can remember, and it is amazing that it was not disposed of long ago. It is proposed to name a fact-finding committee, which will represent fruit growers, fruit dealers, both wholesale and retail, and the International Apple Association, the National Apple Institute, the Markets' Branch of the U.S.D.A., and others. Said committee is to report their findings, and, if possible, present a program of voluntary and legislative action which will take care of the low grade fruit situation.

The several committees dealing with nomenclature, spray residues, and new fruits have been very active during the present fiscal year. Dr. M. J. Dorsey, Department of Horticulture, University of Illinois, who heads the Committee on Nomenclature, was invited to present a paper on this subject at the International Horticultural Congress held at Berlin, Germany, in August, 1938. Dr. Dorsey was unable to attend the congress personally. At Dr. Dorsey's request, however, the Code of Nomenclature as adopted by the APS was published in full in Section Seven of the report of the International Horticultural Congress. The publication of the code, therefore, gives world-wide recognition to the APS and its Committee on Nomenclature.

The Committee on Spray Residues headed by Dr. W. A. Ruth, Department of Horticulture, University of Illinois, has been actively pursuing its studies relative to the residue problem, and the report of this committee will appear in the proceedings of the Chattanooga meeting held November 30 and December 1-2, 1938.

Prof. C. P. Close, College Park, Md., will again present in the 1938 proceedings the report of the Committee on New Fruits, in which will be listed all of the new fruits introduced during recent years. The reports of the New Fruits' Committee have been notable contributions and have appeared in the annual reports of the APS for the last 15 years.

Memberships for the fiscal year of 1939 should be sent to the secretary. The annual membership fees are \$1.25, which entitles each member to a year's subscription to AMERICAN FRUIT GROWER and a copy of the proceedings of the annual convention. Send all remittances to H. L. Lantz, secretary, American Pomological Society, Ames, Iowa.

H. L. Lantz
SECRETARY

DECEMBER, 1938

PRUNING

(Continued from page 7)

for easy reaching, from the ground, to the hard-to-get tree spots.

Essential features in the design of today's pruning tools, besides durability of mechanical parts and cutting edges, are ease of operation, applicable both to the smallest hand shear and the large forestry type of lopping shears, and freedom from injury to tree parts. The latter feature, although seemingly unimportant, is really an essential since jagged pruning wounds are often the entryways for troublesome insects and diseases.

Outstanding features of the saws now being manufactured especially for pruning are improved blade shapes and scientifically designed cutting teeth which minimize operating power needs and injury to bark. So specialized have become the tools for fruit pruning that there is now available a bramble pruner used for removal of canes. This new device resembles a set of shears at the end of a walking stick with the operating handle at the top.

On the subject of pruning non-bearing tree fruits, specialists are in accord in their recommendations for light pruning. Numerous experiments have definitely proved that heavy cutting back and thinning out of non-bearing trees results in dwarfing and, in turn, curtailment of fruit bearing in later stages of growth. Trees that have been pruned heavily each year have smaller trunks and main branches, make less total top and root growth, the number of fruit spurs or shoots is fewer, and, at least for the first few years, bear smaller crops. The dwarfing action caused by heavy pruning of young stock results principally from the lack of food-manufacturing leaf area and the consequent lessening of root growth.

For young bearing trees, too, the light pruning principle is applicable. Even though lightly pruned trees may appear top-heavy while bearing the first few crops, they will usually develop more rapidly and produce more fruit if lightly pruned. A general



A long reach is being made by this pruner in the Sandhill Orchard near Carroll, Ohio. Managed by Harry Lutz, this orchard is well-known for systematic pruning.

practice is to increase the amount of pruning after the trees have borne two or three commercial crops. To be remembered in pruning young non-bearing and bearing trees is the need for a strong central framework of branches to produce a rugged tree during the full bearing period.

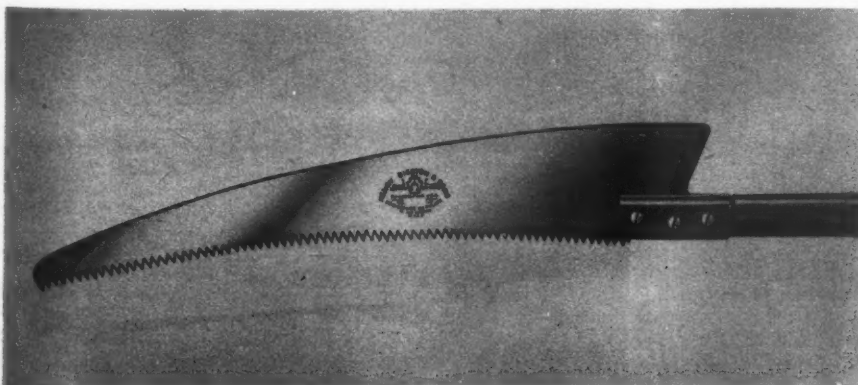
For apples, the principal pruning methods are modified leader, central leader, and open-head systems. The modified leader type of tree training is by far the most popular. Under this system, one limb, usually the center or top branch, after three or four years' growth, is headed to an outward

branch. Thus a leader four or five feet in length remains in each tree, and more and better spaced limbs growing at wide angles to the tree form the main framework. There are, of course, modifications of this training used in various localities.

Like apples, it is usually recommended that pears be pruned lightly while they are in the non-bearing and young bearing stages. Pears are usually trained by the pyramidal, open, modified leader, or natural forms. Especially with some varieties like Bartlett and Anjou, the set of fruit is often greatly increased by resorting to heavier pruning after the trees have come into commercial bearing. Another practice of importance in pear pruning is the removal of fruit spurs and water sprouts on the lower parts of limbs near the trunk, to prevent the entrance of pear blight at these points.

In the case of peaches, new stock is usually headed back to "whips" 18 to 22 inches high. Following the second year's growth, three or four strong laterals are selected from each of the main limbs left from the year before to continue the framework of the tree. More recently, peach grow-

(Continued on page 18)



Strong but light blade makes this pole saw an efficient unit for orchard trimming. Proper equipment saves time in cutting hard-to-reach branches.

S-W ARSENATE OF LEAD

Sherwin-Williams Arsenate of Lead is not only a pure product but it is a perfectly balanced standard Arsenate of Lead containing 98 per cent of active ingredients. Tests prove the heaviest deposit is produced by S-W Arsenate of Lead—that is why thousands of growers have demonstrated that Codling Moth can be successfully controlled with S-W Arsenate of Lead and the fruit cleaned to meet the new tolerance for both arsenic and lead.

S-W MULSOID-SULFUR

Sherwin-Williams Mulsoid-Sulfur is a superior wettable sulfur recommended especially as a spray for peaches to control Brown Rot and Peach Scab and for spraying apples and pears for the control of Scab in the after-bloom sprays. S-W Mulsoid-Sulfur contains a high percentage of sulfur.

S-W BASI-COP (BASIC COPPER SULFATE)

Sherwin-Williams BASI-COP is recommended for every spraying purpose that formerly called for ordinary copper sulfate. It has been proved to be the best of all the "fixed" copper compounds and better and safer than Bordeaux and Lime-Sulfur in the control of Cherry Leaf Spot. S-W BASI-COP will not dwarf cherries nor cause yellowing, dwarfing or dropping of the leaves. Also recommended for Blotch, Brook's Spot and Bitter Rot on apples; Peach Leaf Curl; Grape Rot; and for spraying potatoes, celery, beans and ground crops of all kinds for control of fungous diseases.

S-W NICOTINE SULFATE

Sherwin-Williams Nicotine Sulfate (40 per cent) is a standard spray for the summer control of Aphid and Pear Psylla. It is also used extensively as a substitute for arsenate of lead in the control of late brood Codling Moth with Bentonite and S-W Summer Mulsion—particularly in sections where growers are not equipped to wash their apples.

S-W DORMANT AND SUMMER EMULSIONS

containing 45 per cent oil, is recommended for control of San Jose Scale, European Red Mite, Pear Psylla, Cottony Peach Scale, and Apple Leaf Roller; S-W Spray-Mulsion, which is also recommended for the control of all scale insects and pests, except Leaf Roller; S-W Tarzol, recommended for control of both scale insects and aphids; S-W Tar-Mulsion, a straight tar oil emulsion, which kills Aphid and

S-W ARSENATE OF CALCIUM

Sherwin-Williams Arsenate of Calcium complies with every government specification covering physical qualities and chemical analysis. It is used either as a spray or dust. S-W Arsenate of Calcium is an effective spray for the control of Potato Beetle on potatoes, or it can be used as a dust for the same purpose. S-W Arsenate of Calcium is also of especial value applied as a dust in the control of the Cotton Boll Weevil and Cotton Leaf Worm.

S-W SULFIX SULFUR

For apples Sherwin-Williams recommends the new scab-controlling, non-russet, non-injurious to foliage spray combination of S-W Dry Lime-Sulfur used with S-W Sulfix Sulfur. This economical combination does away with the use of wettable sulfurs, using Dry Lime-Sulfur as the wetting agent. Easy to mix, the new Dry Lime-Sulfur-Sulfix Sulfur combination cuts spraying costs one-third because S-W Sulfix Sulfur is a special form of finely ground sulfur that can be made wettable quickly by Dry Lime-Sulfur. Use of this summer fungicide combination assures Fine Finish, Fine Color and Healthy Foliage.

S-W SULFUR DUSTS

Sherwin-Williams manufacture all the standard sulfur-arsenate of lead dust combinations recommended by state experiment stations for use on apples and peaches. These vary according to state requirements but are available from all Sherwin-Williams warehouses.

S-W ROTO-DUST

To the jungles of South America The Sherwin-Williams Company has gone in order to formulate Roto-Dust. Rotenone is the active poison in Derris and from the roots of this deadly insect-killing plant Roto-Dust is made. S-W Roto-Dust is non-poisonous to humans, birds and animal life. It contains .75 per cent Rotenone but contains no arsenic, lead or fluorine. S-W Roto-Dust meets all federal specifications and is permitted for dusting all kinds of vegetables and flowers in every section of the country.

S-W SPREADERS AND STICKERS

Properties of lead arsenate particles so that a maximum percentage remains on the fruit and foliage. In most spreaders it is not possible to go beyond the optimum dosage for spreading without increasing the run-off. With S-W Spralastic as the dosage is increased up to 1/2 gallon with 3 pounds of lead arsenate to 100 gallons of spray, the deposit increases accordingly, with the result that three to four times

S-W DORMANT AND SUMMER OIL EMULSIONS

containing 85 per cent oil, is recommended for control of San Jose Scale, European Red Mite, Pear Psylla, Cottony Peach Scale, and Apple Leaf Roller; S-W Spray-Mulsion, which is also recommended for the control of all scale insects and pests, except Leaf Roller; S-W Tarzol, recommended for control of both scale insects and aphids; S-W Tar-Mulsion, a straight tar oil emulsion, which kills Aphids and Pear Psylla eggs only. S-W Summer Mulsion, containing 83 per cent white oil, is recommended for control of Codling Moth. All S-W oil emulsions are quick-breaking and therefore more effective.

S-W DRY LIME-SULFUR

Sherwin-Williams Dry Lime-Sulfur, THE ORIGINAL DRY LIME-SULFUR, is stabilized Liquid Lime-Sulfur in dry, powdered form. It is recommended as a dormant spray for apples, pears, peaches, cherries, plums and other fruits and shade trees for control of San Jose Scale, Peach Leaf Curl, Peach Blight and Peach Twig Borer, and as a Summer spray for apples, pears and plums for control of Apple and Pear Scab, Powdery Mildew of Apple, and Rust Mites of citrus fruits. S-W Dry Lime-Sulfur does not russet the fruit or burn or crimp the foliage of apple trees and its use results in A-Grade apples of Fine Color and Fine Finish.

section of the country.

S-W SPREADERS AND STICKERS

properties of lead arsenate particles so that a maximum percentage remains on the fruit and foliage. In most spreaders it is not possible to go beyond the optimum dosage for spreading without increasing the run-off. With S-W Spralastic as the dosage is increased up to 1/2 gallon with 3 pounds of lead arsenate to 100 gallons of spray, the deposit increases accordingly, with the result that three to four times more lead arsenate remains on the fruit. S-W Spread-Rite is a liquid spreader made from fish oil, to be used where the maximum deposit-building type spreader is not required.

S-W ZINC SULFATE

Sherwin-Williams Zinc Sulfate is available in two grades, one containing 25½ per cent zinc and the other 36 per cent. Since metallic zinc is the only active ingredient in zinc sulfate, it is on the basis of the zinc content that the value of zinc sulfate may be measured. It is this material that Sherwin-Williams recommends especially for use as a spray on peaches to control Bacterial Leaf Spot and to prevent arsenical injury to peach foliage. S-W Zinc Sulfate is also recommended for correcting certain deficient soil conditions present where tung nut, pecan and orange trees are grown.



WORLD'S LARGEST SINGLE PLANT
PRODUCING INSECTICIDES EXCLUSIVELY



SHERWIN-WILLIAMS

SPRAY AND DUST MATERIALS

CLEVELAND, OHIO



COVER
THE
EARTH



COVER
THE
EARTH



STATE NEWS

CALIFORNIA—Major retail distribution channels, including grocery, drug, restaurant and hotel organizations, will push the bumper citrus crop this winter of the three producing areas—California-Arizona, Florida, and Texas—in what is pronounced by Harry Damerel, chairman of the California Orange and Grapefruit Stabilization Committee, as the greatest nationwide sales drive on oranges and grapefruit in history.

Three national citrus sales of 10-days' duration each will be staged. The first of these started November 25, and January 26 and March 2 are slated as the opening dates for the other drives.

Organizations co-operating in the drive are: Independent Food Distributors Council, representing 153,000 grocery stores; National Association of Food Chains, with 37,000 retail units; Super Market Institute, with 6300 stores; National Restaurant Association, with 5800 outlets; National Hotel Association, with 6500 hotels; National Association of Chain Drug Stores, 4000 stores; National Association of Retail Druggists, with 28,000 members and 32,000 stores; International Stewards and Caterers Association.

The Institute of Distribution, consisting of all important chain store groups representing 9000 general merchandise and variety stores, have pledged their support to these drives with store displays and consumer suggestions. Although they do not stock or sell citrus fruits they will back the nationwide promotion.

KANSAS—Application of commercial fertilizer in late fall or early spring has, in the opinion of many apple growers, given better results than late application or application just before blossom time in the spring. Several carloads of commercial fertilizer have been shipped into the apple district of north-east Kansas during the past few weeks.—**GEO. W. KINKEAD**, Sec'y, Topeka.

MINNESOTA—The annual meet of the Minnesota Fruit Growers Association at Red Wing was a bang-up success. Prominent among a host of headliners was an address by Prof. T. J. Maney of Iowa State College on the subject of topworking. Long-time experiments in Iowa have demonstrated that certain apple varieties will produce much better when topworked on certain understocks. Among the successful combinations



mentioned were: Cortland on Hibernial; Delicious on Hibernial, Virginia, Duchess, and Patten Greening; Golden Delicious on Virginia; Jonathan on Hibernial, Virginia, Duchess, and Patten Greening; McIntosh on Hibernial, Virginia, Malinda, and Patten Greening; Northwestern on Hibernial and Virginia; Wealthy on Hibernial, Virginia, and Duchess.

D. C. Webster of La Crescent won the fruit judging contest for the third consecutive year, thereby retaining permanent possession of the trophy. Close second: F. F. Isaacs of White Bear Lake.

Directors of the Fruit Growers Association re-elected: Ben F. Dunn, Leon F. Gates, Oscar Sorby, Anna M. Streed, and J. D. Winter. Terms of all officers hold over until next year.

T. E. Carpenter was re-elected president of the State Horticultural Society, which held its 72nd annual meet in conjunction with that of the association. Louis Fischer was re-elect-

ed vice-president. Ben F. Dunn was among those elected to the executive board of the society.

Only change made in the adoption of official list of fruits recommended for planting was the addition of Beacon, formerly on the trial list.—**J. D. WINTER**, Sec'y, Mound.

MASSACHUSETTS—The Federal Surplus Commodities Corporation purchased 868 car-

NEW YORK—J. S. Thompson, representative of the Hess-Watson Company of New York, has this to say to growers about the use of brands, trade marks, institution stamps, or advertising campaigns: "You growers had best give a lot of thought to what you put in the packages that you are advertising. I know one section in the country where they have an advertising campaign on apples, and they are filling the markets in a certain section of the country with a bunch of junk. I am firmly convinced that it won't be long before these growers wake up to the fact that they have spent their money advertising and then ruined their own market."

—**H. B. TUKEY**, Geneva.

loads of hurricane-harvested apples in the New England states, as follows: Massachusetts 484, Connecticut 318, other four states 66. It is impossible to express the appreciation of the growers for this co-operation.

Growers who rushed their blown-off apples into cold storage are cautioned to keep an eye on the storage temperature. The storage cold should be an actual and accurate 32 degrees F and even 30 to 31 degrees F, not the heretofore frequent 34 to 35 degrees F. Windblown McIntosh that were picked up promptly and immediately placed in cold storage should have been disposed of by December 1. The greenness or immaturity of the winter varieties will, with proper temperatures, help to hold these reasonably successful, although, if badly bruised, even these varieties should not be held later than January. Fruit that lay in the orchard until badly softened and in some cases until maggot injury became serious will not stand up even into January. It should be carefully sorted and moved as soon as possible.

A full three-day session with topics of vital importance and speakers of national reputation is planned for the next annual meet of the Fruit Growers Association at Municipal Auditorium in Worcester, January 4-6. Pest control and fruit handling will receive their usual attention, and the hurricane of September 21 has provided topics for several numbers on the program.—**W. R. COLE**, Sec'y, Amherst.

WASHINGTON—The second push of Washington State Apple Advertising Commission for the sale of Washington apples, aimed at the holiday trade, encompasses newspaper advertising in 25 leading U.S.A. cities, radio spotcasts, outdoor posters, and advertising in December issues of national women's magazines.

Dealer aids consist of a full line of colorful display materials including a two-way hanger showing a boy enjoying a Delicious apple

while looking through a wreath of apples and apple leaves, a small red and green two-way price pennant, and a "dress up" strip for placing around apple displays. The strip is eight feet long and shows several apples in color reproduction. It carries the message, "Crisp Juicy Apples from Washington State." Material is being offered in packaged kits.

WEST VIRGINIA—The eastern panhandle during the fourth annual apple harvest festival in Martinsburg again went Monarchistic and selected E. Lee Goldsborough of Shepherdstown "king" by his divine right (he merited this honor by virtue of his having been the individual grower to market the largest crop in the 1937 season); and, not to have the "king" too austere, comely Lucy Ellen Bradshaw was chosen "queen". The "king" was coronated by the renowned Dominican minister to the United States, Andres Pastoriza, and the "queen" by Gov. Homer A. Holt of West Virginia. Amid this extravaganza of feudalism, federal and state dignitaries spoke encouragingly of the future of the apple.

It is interesting to note the extent of "King" Lee's orchards. His acreage amounts to 600, with all holdings near Shepherdstown, and his fruit is packed and distributed by the Shepherdstown Fruit Growers' Club under the "Rumsey" brand. "King" Lee is also active in the West Virginia Horticultural Society, is a director of Appalachian Apples, Inc.

All of the fruit displayed in the apple show sold at good prices. Demand was particularly active for the smaller packages of fruit for use as Christmas gifts. The booth manned by the Young Farmers Association was devoted entirely to this project, the youths taking orders for fruit in any packages desired, for any variety commercially grown in the district, and for shipment at any time the buyer desired. An estimated 25,000 persons visited the city during the festivities.

UTAH—A. C. (Clean?) Page of Payson had his usual crop of clean apples this fall. After packing the entire crop of 12,000 bushels last season the wormy fruit thrown out from one block would not fill a bushel basket. Five cover sprays were used on one block and three on another. Thorough and continued effort has largely eliminated codling moth from the Page orchard.—**A. STARK**, Sec'y, Logan.

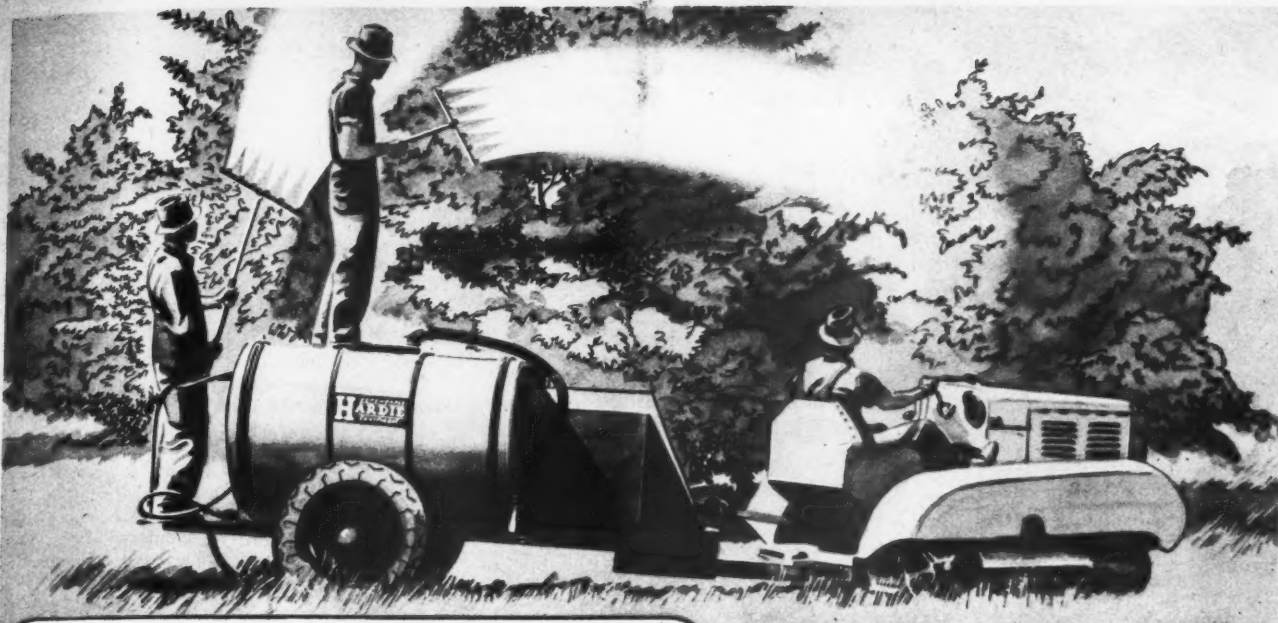


MICHIGAN—Water guns are best known by small boys who get in trouble with their teachers. Yet a new giant water gun constructed in the agricultural engineering laboratories of Michigan State College is designed to serve a far more useful and profitable purpose in Michigan agriculture.

O. E. Robey, inventor of the apparatus, hopes to irrigate as much as six to seven acres at a time with the water gun. What is more, he is tinkering with a new type nozzle built to revolve as it irrigates a square or irregular area. Through a motor driven device the nozzle is to be slowed up and elevated slightly so that corners will get as much water as the sides and interior parts of the area to be irrigated.

Robey sees possibilities for the water gun, including its use in protecting fruit buds

(Continued on page 16)



YOU CAN DEPEND ON YOUR HARDIE *for* LONG LIFE

• What you pay for a sprayer is part of your spraying cost. How many gallons will the sprayer pump before it is worn out? How many seasons before it must be replaced? Ask yourself these questions when you are buying a sprayer. Find out how many gallons or years constitute the average life of the sprayer you are considering.

Durability in a sprayer depends directly upon the design and construction of the pump and how it is lubricated. The vertical-type crankshaft-driven Hardie pump has demonstrated an absolutely unmatched length of life in every fruit-growing section. Many Hardies that have pumped over ten million gallons are still in use.

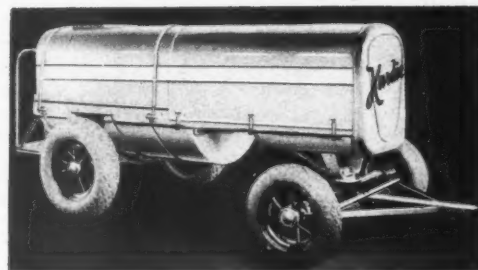
Hardie complete, selective, clean oil lubrication protects and lengthens the life of the pump. No other sprayer provides this complete lubrication which includes every moving part—even the plungers and the plunger cups run in a bath of oil.

See how Hardie sprayers are designed and built. Learn the points to look for when you buy a sprayer. Write for your copy of the 1939 Hardie Catalog . . . a beautiful 64-page book packed full of information every grower needs.

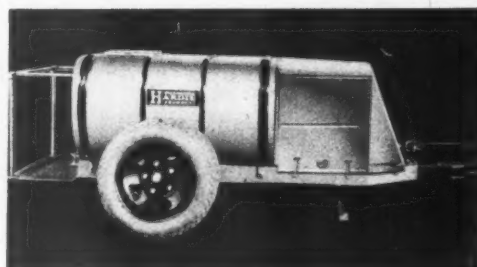
The Hardie Mfg. Company, Hudson, Mich. Branch Factories, Sales and Service Offices: Portland, Ore., Los Angeles, Calif., Brockport, N. Y. Export Dept., Detroit, Mich.

HARDIE

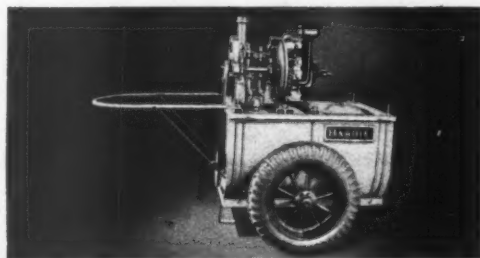
Dependable SPRAYERS



Streamlined horse-drawn outfits in many models with discharge capacities from 6 to 50 gallons per minute.



Hardie Tractor Trailers embody many advanced, exclusive and valuable features.



Many different models are available in the new Hardie No. 99 line of lower-priced outfits delivering 4 gallons per minute at 300 pounds pressure—just the outfit for fruit trees, gardens, small acreages of row crops.



The more you get for your apples the more profit you make. Here's a tested way to secure top prices and please your customers as well.

Pack your better grades in Bemis Lenonet Open-Mesh Bags. These bags are one of the finest merchandising helps developed in many years. Retailers welcome fruit packed this modern way because they can sell it faster and more profitably.

You see, women like to buy in these handy five and ten pound "visible-content" bags. Merchants simply pile them on the floor or counter and women help themselves. Sales increases up to 400% have been recorded and growers are benefited accordingly.

Yet Bemis Lenonet Bags are economical . . . easy and quick to fill . . . and keep your fruit always looking at its best.

Send for sample bag, prices and location of our nearest factory. No obligation. Use coupon today.



BEMIS
BRO. BAG CO.
426 Poplar Street
ST. LOUIS, MO.

BEMIS
Lenonet
OPEN-MESH BAGS

BEMIS BRO. BAG CO.
426 Poplar Street, St. Louis, Mo.
Without obligation, send at once samples, prices and full details of the following Bemis Open-Mesh Bags:

Lenonet Apple Bags: 5 lb. _____ 10 lb. _____

Vinet Apple Bags: 1/2 bu. _____ 1 bu. _____

Name _____
Post Office _____
City _____ State _____

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STATE NEWS

(Continued from page 14)

from early spring freezes. The pump is mounted on a chassis, so that the car motor runs not only the pump but can propel the equipment to unwatered areas.

IOWA—Election results, 27th annual meet Iowa Fruit Growers Association, held at Des Moines: President, Robert M. Clark, Mitchellville; vice-president, Edwin Carter, Glenwood; secretary-treasurer, R. S. Herrick, Des Moines; directors, B. W. Mayden, Des Moines, and Victor Felter, Indianola.—R. S. HERRICK, Sec'y, Des Moines.

MARYLAND—Much relieved were apple growers when their crop was finally taken off the trees after having been repeatedly reduced by small windstorms and rather constant dropping of fruit due to early maturity. Some varieties were unusually large in fruit size, Stayman fruit being generally larger in size in practically all parts of the State.

The society's annual meet will be January 4 and 5 instead of January 3 and 4, as originally announced. This is the first annual meeting in Frederick for many years, and the location makes the meeting accessible to growers from nearby states.—A. F. VIERHELLER, Sec'y, College Park.

RHODE ISLAND—The recent hurricane showed the danger of a spray program of lime-sulphur throughout the season in apple orchards. McIntosh trees, in a spray study using lime-sulphur throughout the season, lost practically all of their leaves. Those sprayed with Flotation Sulphur hung on to a large proportion of theirs. Trees sprayed with lime-sulphur through calyx followed by Flotation Sulphur or Kolofog lost about half of their leaves.

Orchard mice are very plentiful this fall and growers are being advised to bait them promptly. Demonstrations co-operating with the U. S. Biological Survey were conducted at Kingston orchards, Kingston; Jesse Dawley, East Greenwich; Edwin Knight, Greenville; Max Miller, Cumberland; and Capt. Rohango, Portsmouth.—E. P. CHRISTOPHER, Sec'y, Kingston.

WISCONSIN—Among the many high points of the 70th Wisconsin Horticultural Society meet were tips from the specialists at the College of Agriculture, who advised timing sprays for control of apple scab and codling moth according to weather conditions, not by any "set" schedule.

The outstanding program on the use of fruit in the kitchen, staged by the ladies

auxiliary, and the wide interest in the affair, are responsible for the auxiliary meeting becoming a permanent feature of the annual convention.

Excellent samples of Orleans, Macoun, Cortland, Haralson, Secor, and Kendall apples were displayed in the fruit show. These varieties are under test and look promising. William Stuhr of Waukesha won first prize on his seedling apple—a winter sort of good quality, size, and deep red color.

Plans are being made to test Lobo, Hume, and Joyce, all McIntosh crosses from the Canadian Experiment Station at Ottawa, in the northern sector of Wisconsin.—H. J. RAHMLOW, Sec'y, Madison.

NORTH CAROLINA—A modified spray schedule for apples, tested during the summer in Alexander, Buncombe, Henderson, and Yadkin counties, compared favorably with the regular recommended schedule in the control of diseases affecting Bonum, Delicious, and Winesap varieties, reports H. R. Niswonger, extension horticulturist at State College. Spray burn damage and the cost of materials was reduced by the new schedule, which calls for less concentration of liquid lime-sulphur and Bordeaux mixture, he revealed.

On Delicious apples at the Brushmont Orchard in Alexander County the percentage of fruit free from scab or rots was increased from 94 to 95 per cent by seven sprayings of the modified schedule. Bonum Delicious were sprayed five times at the Mountain Experiment Station at Swannanoa in Buncombe County, and the percentage of disease-free fruit was increased from 98.5 to 98.7. Delicious apples were tested in the E. L. Marshall orchard in Henderson County and the gain in good fruit was from 91.4 to 92.6 per cent, with seven sprayings. Red Winesaps in the Highland Orchard in Yadkin County received six sprayings with the modified schedule and showed 92.6 per cent free from scab and rots as compared with 91.9 per cent under the regular schedule.

In the modified spray the liquid lime-sulphur is reduced from two and one-half gallons (regular schedule) to one and one-half gallons per 100 gallons of water, and the Bordeaux mixture formula is changed from four pounds of bluestone and eight pounds of lime per 100 gallons of water to two pounds of bluestone and six pounds of lime per 100 gallons of water. Hydrated lime is also omitted from the combined spray mixture of liquid lime-sulphur and arsenate of lead.



WORLD'S LARGEST APPLE PIE

Twenty-five hundred people gave vent to a mass, "yum, yum!" after each had received and eaten a slice from the "world's largest apple pie." The gigantic piece of pastry, 10 feet across and a foot thick, was baked at Wenatchee, Wash., for National Apple Week. The pie contained 41 boxes of apples and weighed one ton. Getting the pie out of a specially built oven was a problem until a "Caterpillar" Diesel D2 tractor was hooked onto it as shown in the above photograph.

AMERICAN FRUIT GROWER

DECEMBER, 1936

CALENDAR OF COMING MEETINGS and EXHIBITS

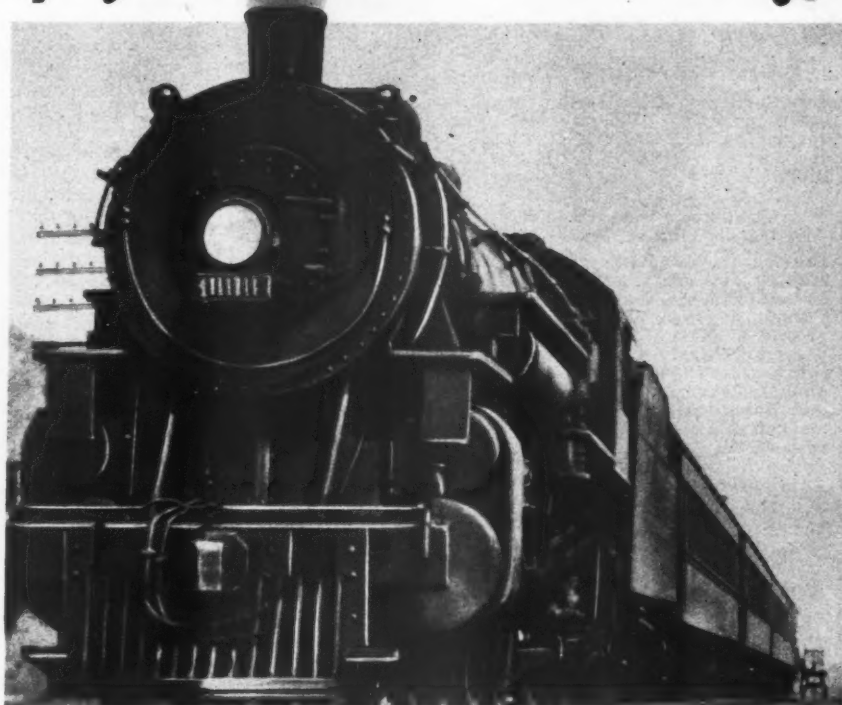
- Dec. 1-2—Kansas State Horticultural Society, Topeka.—Geo. W. Kinkead, Sec'y, Topeka.
- Dec. 2-3—Montana Horticultural Society, Kalispell.—G. L. Knight, Sec'y, Missoula.
- Dec. 5-7—Washington State Horticultural Association, Chamber of Commerce, Yakima.—J. C. Snyder, Sec'y, Pullman.
- Dec. 6-8—Michigan State Horticultural Society, Civic Auditorium, Grand Rapids. H. D. Hootman, Sec'y, East Lansing.
- Dec. 6-8—Oregon State Horticultural Society, Eugene.—O. T. McWhorter, Sec'y, Corvallis.
- Dec. 6-8—Virginia State Horticultural Society, Winchester.—W. S. Campfield, Sec'y, Staunton.
- Dec. 7-9—Nebraska State Horticultural Society, Plant Industry Building, Agricultural College Campus, Lincoln.—E. H. Hoppert, Sec'y, Lincoln.
- Dec. 7-9—New Jersey State Horticultural Society, Hadden Hall, Atlantic City.—A. J. Farley, Sec'y, New Brunswick.
- Dec. 13-14—Connecticut Pomological Society, Foot Guard Hall, Hartford.—H. C. C. Miles, Sec'y, Milford.
- Dec. 14-15—Horticultural Society of Northern Illinois, LeClair Hotel, Moline.—O. H. Waddell, Sec'y, Davis Junction.
- Dec. 14-16—Peninsula Horticultural Society, Dover, Del.—T. F. Manns, Sec'y, Newark, Del.
- Jan. 4-5—Maryland State Horticultural Society, Frederick.—A. F. Vierheller, Sec'y, College Park.
- Jan. 4-6—Illinois State Horticultural Society, Carbondale.—J. B. Hale, Sec'y, Kell.
- Jan. 4-6—Massachusetts Fruit Growers Association, in conjunction with Union Agricultural meetings, Worcester.—W. R. Cole, Sec'y, Amherst.
- Jan. 10-12—Indiana Horticultural Society, Purdue University, Lafayette.—R. L. Winklepleck, Sec'y, Lafayette.
- Jan. 10-13—New York State Horticultural Society, Rochester.—Roy P. McPherson, Sec'y, LeRoy.
- Jan. 17-19—Maine Pomological Society, Augusta.—E. L. White, Sec'y, Bowdoinham.
- Jan. 17-19—State Horticultural Association of Pennsylvania, in conjunction with Pennsylvania Farm Show, Harrisburg.—J. U. Ruef, Sec'y, State College.
- Jan. 25-27—Eastern meeting New York State Horticultural Society, Kingston.—Roy P. McPherson, Sec'y, LeRoy.
- Jan. 30-Feb. 1—Ohio State Horticultural Society, during Farmers' Week, Ohio State University, Columbus.—F. H. Beach, Sec'y, Columbus.
- Feb. 1-2—West Virginia Horticultural Society, Market House, Martinsburg.—Carroll R. Miller, Sec'y, Martinsburg.

SPRAYER BOOKLET

A 76-page booklet with colored illustrations of important mechanical and structural features of equipment makes up the 1939 John Bean Mfg. Co. sprayer and duster catalog just released. This new catalog contains, besides the clear illustrations of sprayers, dusters, sprayer parts, and spraying scenes, complete facts on each of the sprayer and duster models manufactured by the firm. These types cover orchard, row crop, greenhouse, nursery, and estate sprayers and dusters, as well as stationary outfits. Spraying accessories and fruit graders, cleaners and washers are also included in the new catalog.

DECEMBER, 1938

Meet an *Important Taxpayer* in Your County



THE railroads pay substantial taxes in almost every county in America—taxes that go for the support of local government and all its varied activities.

As an indication of what these taxes mean, let's take just one example:

Railroad school taxes alone pay the cost of educating more than 1,300,000 children in America every year.

For the most part, railroad taxes are the same kind you pay—taxes which go to support the activities and welfare of local communities.

That's an important reason why every farmer in America has a personal interest in seeing the railroads earn a living under private management.

Can the railroads do that? Of course they can.

Through the recent tough years, railroads have steadily improved their plant and equipment.

They're delivering the finest service today in all their history—at the lowest average rates in the world.

Their capitalization, as compared with investment in their property, is about one-fourth lower today than in 1910—and fixed charges in 1937 were less in proportion to revenue than in any of the years prior to 1917—the prosperous years of the industry.

What is needed for the railroads is such a common-sense remedy as this:

Treat the railroads as a business. Give them reasonable freedom to "price" their only product—transportation service. Give them greater freedom to adjust rates to meet competitive situations; to adjust services to the demands of traffic; and to adjust expenses to the conditions of their business. And, above all, give them equality of treatment and opportunity—equality with all other forms of transportation in matters of regulation, taxation, subsidy and the like.

That's packing it into a single paragraph. But it's part of an 18 point program worked out by railroad men—a basis for a national transportation policy. You'll find this whole program interesting. Send for your copy today.

SAFETY FIRST—
friendliness too!

ASSOCIATION OF
AMERICAN RAILROADS

WASHINGTON, D. C.

AMERICAN FRUIT GROWER

PAGE 17

REDELBERTA

Lots of PEACH
Red Color

10 Days EARLIER RIPENING

For the profitable earlier markets here's a **REAL Elberta**—with fully double the **RED COLOR** of Elberta—and which **RIPENS FULLY TEN DAYS EARLIER** than ordinary Elberta.

Originated as a bud-sport of Elberta
10 Years of Fruiting, Testing, Proving.

Redelberta was discovered in August 1928 by Jay Perry, prominent Yakima Valley, Washington orchardist. Mr. Perry's five year Redelberta orchard produced several hundred boxes of beautiful, highly colored, Redelbertas this season. Redelbertas sold for \$1.25 and \$1.00 per crate whereas Elbertas and Hales arriving later on the same market sold for 50c and 75c per crate respectively.



"In appearance there is no question but the new strain outclasses old Elberta. The seasonal ripening is a distinct advantage as it comes about 10 days ahead of the main harvest of Elberta."—W. A. Lutz, Farm Representative, P. S. F. & L. Co. (formerly Orchard Advisor, Earl Fruit Co.)

"The thing that makes the Redelberta of interest to growers is the fact that it is about ten days earlier than Elberta. The peach has a **SOLID RED** colored cheek and apparently it colors solid red whether it is on the outside or inside of the tree."—C. C. Allen, Big "Y", Washington.

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ural color.
Also big C. & O.
catalog.

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Reliable
Salesmen

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the West. Our Company has
introduced, patented, and trade-
marked a number of outstand-
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now extensively planted
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trees—they will please you.

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NURSERY CO.**

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of trees true to name.

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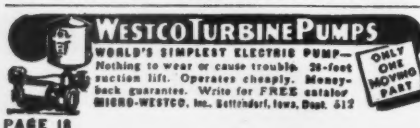
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tall. Eat delicious jumbo sized berries with cream. Two
to four bushes will supply average family with mouth-
watering blueberry pies all season. Big money-maker for
planters. Sell from 50c to 75c a quart. Fully described in our cat-
alog of over 100 real bargains in plants, trees and shrubs. Write now.
Whitten-Ackerman Nursery, Box 16, Bridgman, Mich.



PAGE 18

PROFITABLE PRUNING

(Continued from page 11)

ers have followed another system of pruning at planting time. By this method the trees are headed 36 to 40 inches high and side branches are headed back to stubs, each with one bud. Shoots developing from these buds serve as the framework branches.

Fundamentally, the pruning of bearing peach trees consists of moderately thinning out of branches and those which are to continue as the main framework are headed back to outward growing branches. Center of the trees is kept reasonably open so fruit will color well and to keep growth of new shoots on the main branches. Gradual rebuilding of peach trees can be done by heading back more severely for one year and cutting out higher limbs which usually grow toward the center of the tree. Tops of the main framework branches can be headed back into two-year wood, which will leave the side branches and laterals to bear the crop. Although fruit production may be reduced somewhat for one year, this procedure will cause new growth lower down on the tree, particularly on the inside of the main branches, so that new limbs can be gradually developed and the tree lowered without loss of crop.

Fruit growers in many areas prune cherry trees sparsely. These growers have found that the cherry requires less pruning than any other tree fruit. Since most of the crop in the case of sweet cherry is borne laterally on spurs, the tree branches vary little as the tree grows older and it is therefore unnecessary to do any great amount of thinning to admit light and air. To invigorate old spurs, induce new spur development, and cause additional branching, it may be desirable to cut back upper limbs to outward growing branches as the tree grows older. For sour cherries the modified leader system of training is usually desirable and bearing trees respond well to moderately heavy pruning.

Young plum trees should be pruned lightly. The Japanese type usually requires heavier pruning than the other types for proper shaping of the trees and good growth of shoots upon which new spurs and fruit are formed the season following pruning operations. Because Japanese plums bear such heavy crops while young, older bearing trees soon need a heavier type of pruning to stimulate new shoot growth, to produce fruit of good quality and size, and to keep the spurs in a healthy condition. European plums should be thinned out by removing small branches and heading back the main limbs lightly to outward growing branches.

The fruit bearing habit and thus the pruning essentials for the apricot are similar to those for the Japanese plum. Generally, the quince tree is trained to a low, spreading head. Centers are kept open and main limbs are headed back during the first few years. To obtain better and larger crops of quinces, it is desirable to head back old trees to laterals for stimulation of annual new growth.

Rapidly gaining in prominence during the past few years is the "thin wood" method of tree pruning which has been used on apples more than on any other fruit. This type of pruning incorporates the principle of the removal of small, straggly branches on the inside and lower portions of the tree. It is based on the fact that such wood bears only small, worthless fruit but at the same time is a drain on the tree's food resources.

Sizable apple and other tree fruit prunings, and especially the wood derived from the removal of filler trees, have some market value for use in tool handles, certain toys, and chess men. The U. S. Forestry Service, Washington, D.C., has made available a list of manufacturers who use this type of wood.

A variety of training systems is now used for grapes. Most popular are the Kniffen and fan systems. In the first method branches of the vine are placed along two trellis wires, one branch in each direction from the main cane which extends to the top trellis wire. The first trellis wire should be 30 to 36 inches from the ground and the top wire two feet above this wire. The general rule is to leave 40 buds on each vine, usually with the upper arms carrying two buds each more than the lower arm. It must be remembered that short renewal arms or spurs must be left at the junction of each fruiting arm with the trunk, for from these spurs new canes will develop to bear the following year's crop.

The fan system consists of fruiting arms emanating in a fan-shaped pattern from the top of the trunk which terminates at the lower trellis wire. Canes run from the lower wire to the top wire in a fan-shaped manner. In all grape pruning the number of buds left will be determined largely by the vigor of the vine.

Because brambles produce canes which complete their growth the first summer, bear crops the next year, and then die, it is apparent that canes must be removed from plantings after they have fruited or the bramble rows will become choked with dead canes. For all brambles, therefore, it is necessary to remove the old canes after harvest. In the case of red raspberries grown under the hill system, five to seven vigorous canes should be left per plant, with the weaker canes being thinned out just before growth starts in the spring. Under the hedge row system, about 10 canes are left to every four feet of row. The canes remaining after the spring thinning-out work should be headed back.

New shoots of black raspberries are usually pinched or cut off when they have reached the height of 18 to 24 inches, but because they have more vigorous growth purple raspberries are headed from 30 to 36 inches high. Lateral branches of black and purple raspberries must also be headed back, leaving them from 12 to 15 inches in length. Pruning of blackberries is similar to that of black and purple raspberries, while Boysenberry, Nectarberry, and Youngberry pruning usually follows the system for red raspberries. Where trellises or other supports are used for the brambles, the height of heading back and pinching are usually governed by performance of the plant in the rows or hills.

Probably the most severe type of fruit pruning is that employed for dewberries. After this crop is harvested, the old and new canes are mowed as close to the ground as possible. When dry, the canes are burned right in the field which practice destroys many insects and diseases. After thorough cultivation new canes make a solid row for the following year's crops.

A caution to be heeded in all bramble pruning is the removal and burning of old canes to lessen chances of mosaic disease and borers and other insect pests infesting the new growth.

Pruning authorities maintain that the most common error in citrus pruning is the cutting off of too many inside or close-in fruiting branches and leaving long, naked areas on permanent frame limbs. As with other tree fruits, citrus trees are trained to definite branch patterns. These include the simple leader type, leader and lateral type, and, more recently, a modified leader type of training has come into practice. The pruning of bearing citrus trees concerns the thinning of dense walls and the exchanging of old side branches for new, as well as the removal of large surplus timber limbs which are located mainly inside the tree.

FRUIT FORECAST

(Continued from page 4)

duction 10 to 15 years hence will be markedly reduced. Domestic apple supplies for the current season are about one-third less than those of last year and about 14 per cent below the 1927-36 average. Production in the Pacific and Rocky Mountain states during the past few years has remained practically stable at from 50,000,000 to 55,000,000 bushels per year. It is apparent that peak of production has passed for this area as a whole and the general trend will probably be downward. In the Central states, where production varies tremendously from year to year, increasing production from young orchards will likely about offset decreasing production from old commercial and farm orchards.

Continuation of the increase in orange production is slated for the next five years, since trees planted in large numbers from 1920 to 1930 are now coming into bearing and will continue to increase in bearing surface during the next five or 10 years. For the past 19 years orange production has increased from an average of about 30,000,000 boxes during first five years of the period to approximately 58,000,000 boxes for last five years. Older plantings appear to be maintaining a high rate of production per tree, and the number of bearing trees is now more than double the number in groves in 1920. It is forecast that the annual average production for the next five-year period will be about 75,000,000 boxes.

Like oranges, lemons and grapefruit are slated for increased production during the next few years. Here, too, the number of non-bearing trees is large, as is the number of young trees which have not as yet reached full bearing. The outlook for annual lemon production average for next five years is set at 10,000,000 boxes and for grapefruit 25 per cent larger than crops of past two seasons.

The strawberry outlook for 1939 indicates the largest acreage available for picking since 1929 and nine per cent greater than the 1938 harvested acreage. Next year's increases are for the late, intermediate, and second-early groups of states, while there will be some reduction in the early states. Improved demand is indicated for next year.



CARROLL E. JOHNSON

Recent announcement has been made of the appointment of Carroll E. Johnson as assistant advertising manager of the International Harvester Co. Mr. Johnson has been connected with the advertising department of this firm for more than 35 years, serving in several capacities and as chief of advertising copy since 1915. He succeeds A. C. Seyfarth, recently made advertising manager of the Harvester Company.

DECEMBER, 1938

DAY IN AND DAY OUT

WHEN IT'S AN Exide YOU START

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To mark the fiftieth anniversary of Exide Batteries, a handsome souvenir booklet has been prepared, illustrating the essential part these batteries play in daily life. Write, and we will gladly send you a free copy.

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RED AND BLACK 2 YEAR OLD. Transplants. Save a year. Berries in 3 months after planting. Lowest prices. Also Blackberry 1 year 25 for 50c. 4 Elberta Peach, 5/16 ft. high \$1.00. Over 100 bargains in our catalog. Big cash discount for early orders or will ship express C. O. D. if you prefer. Examine stock before you pay. Write today.

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AMERICAN FRUIT GROWER

Standard Garden Tractors

Powerful 1 and 2 Cylinder Tractors for Small Farms, Gardeners, Florists, Nurseries, Fruit and Poultry Men.

THREE SIZES
With Ample Power for Field, Haying and Truck Crop Tools. Run Pumps, Saws & Belt Machines.

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For killing and preventing growth of wood destroying fungi and for protection of wounds. Easily applied with ordinary paint brush. Retains liquid consistency under freezing temperatures.

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Write for catalog of pruning tools and supplies.

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MAKE MONEY WITH POULTRY. READ AMERICA's leading poultry magazine for latest information. Three years \$1.00; nine months 25c. POULTRY TRIBUNE, Dept. C-37, Mount Morris, Illinois.

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BEES—GOOD SIDE LINE. PLEASURE. PROFIT. Send \$1.00 for 190 page book, "First Lessons in Beekeeping," and one year subscription. Catalog free. AMERICAN BEE JOURNAL, Box G, Hamilton, Illinois.

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200 YELLOW FREE BLAKEMORE OR DUNLAP plants delivered, \$1.00. Free catalog of strawberries, tartberries, Boysenberry and Yumberry. WALKER BROS., Judsonia, Arkansas.

MILLIONS CERTIFIED YELLOW LEAF FREE Blakemore Strawberry plants, \$2.50 per 1000. R. B. McUMBER, Greenfield, Tennessee.

CROTALARIA SEED

CROTALARIA SEED: SPECTABILIS, INTERMEDIA, Striata. Also Alyce Clover. Reserve now for spring delivery. GRAND ISLAND NURSERIES, Eustis, Florida.

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SAMPLE COPY BIG MONTHLY MAGAZINE. 10c; \$1.00 yearly. DAIRY GOAT JOURNAL, Dept. 803D, Fairbury, Nebraska.

ELECTRIC FENCE

MAKE ELECTRIC FENCE FROM OLD AUTO COIL. Protects orchards. Complete plans and valuable catalog 10c. LEJAY MANUFACTURING, 963 LeJay Building, Minneapolis, Minnesota.

FARMS WANTED

WANTED—TO HEAR FROM OWNER OF FARM OR unimproved land for sale. WM. HAWLEY, Baldwin, Wisconsin.

FOR SALE

40 ACRES ON STATE ROAD; 7 ACRES TIMBER; 22 acres apple orchard; 6 acres bearing; beautiful home site; electricity; coal; terms, \$5,000. V. L. COOPER, owner, Magnolia, Ohio.

ORCHARDS OF SMALL AND MEDIUM SIZE IN finest of all year climate. Best varieties. Cottages. HENRY P. CORWITH, Saluda, North Carolina.

HOSIERY

FIVE PAIRS—BEAUTIFUL SILK HOSIERY—\$1.00. Three (Full-fashioned) Pairs—\$1.00. DIRECTCO, AF221W Broad, Savannah, Georgia.

MISCELLANEOUS

EVENTUALLY YOU'LL LIVE IN FLORIDA. KEEP in touch with its agricultural opportunities by subscribing to its leading citrus and truck magazine. 50c per year; 3 years, \$1.00. FLORIDA FARM AND GROVE, Jacksonville, Florida.

NURSERY STOCK

FRUIT TREES, VINES, AND PLANTS OF UNEQUALLED QUALITY: 500,000 Peach, 200,000 Apple, one and two year; thousands of Pear, Plum, Prune, and Cherry; hundreds of thousands of small Fruit Plants. Large and small planters are invited to write us for our latest FALL Price List. These prices are the lowest in our history and mean a huge saving to our customers. They are Free to you. BOUNTIFUL RIDGE NURSERIES, Box E, Princess Anne, Maryland.

FRUIT TREES, IN A LARGE ASSORTMENT OF VARIETIES and sizes, grown by Virginia's largest growers of FRUIT TREES. Send for Free Copy of New Fall Price List. WAYNESBORO NURSERIES, INC., Waynesboro, Virginia.

CHESTNUT TREES, CHINESE AND JAPANESE blight resistant. 5 1/2 foot trees, 60c each; \$5.00 per 12. Other new varieties nut trees. WHITFORD NURSERY, Farina, Illinois.

HEADED FRUIT TREES WITH BEARING RECORDS, and Ornamentals. Seedlings and root grafts. Dealers wanted. JONES NURSERY, Woodlawn, Virginia.

OLD GOLD WANTED

CASH BY RETURN MAIL FOR ANTIQUE JEWELRY. discarded watches, gold teeth. Satisfaction guaranteed. Write. LOWE, 1208-I, Kesner Bldg., Chicago.

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ROLLS DEVELOPED—TWO BEAUTIFUL DOUBLE Weight Professional Enlargements. 8 Never Fade Prints. 25c. CENTURY PHOTO SERVICE, LaCrosse, Wisconsin. GUARANTEED: ROLL DEVELOPED, 16 PRINTS 25c. 20 Prints 25c. QUALITY PHOTO, Hutchinson, Kansas.

POULTRY

CHECK DISEASE LOSSES! GUARD YOUR POULTRY profits by learning how to cut down deaths from disease. You can get a poultry disease text book in serial form by subscribing to NEW ENGLAND POULTRYMAN. One year \$1.00; three years \$2.00. Sample copy with disease articles 20 cents. NEW ENGLAND POULTRYMAN, 4 K Park St., Boston, Massachusetts.

PRUNING TOOLS

ATKINS, BARTLETT, DISSTON, PORTER, Seymour Smith, Tiffany saws, shears. Hand and pole pruners. Tree wound paint. Ladders. Wire mesh tree guards. Tree surgeon supplies. TYSON ORCHARD SERVICE, Flora Dale, Pennsylvania.

PAGE 20

BLIGHT RESISTANT HYBRID CHESTNUTS

LOVERS of the American chestnut, which has been nearly wiped out by the chestnut blight disease, will welcome news of the progress of the chestnut breeding project sponsored by the Brooklyn Botanic Garden and supervised by Dr. A. H. Graves of that institution. Dr. Graves reported on the present status of this project at the recent Boston meeting of the Northern Nut Growers' Association.

Dr. Graves states that the principal object has been to develop, by breeding, a type of chestnut totally resistant to the blight and, at the same time, a forest tree suitable for timber, or, in other words, a good substitute for the American chestnut.

The Chinese and Japanese species of chestnut are more or less resistant to the blight, but are not suitable for timber because of their low-growth habit. These species are being crossed with the American chestnut in an attempt to combine the blight resistance of the former with the growth habit of the latter. To date Dr. Graves has produced more than 600 hybrid trees from over 50 different combinations involving the above mentioned species as well as other chestnut species.

Dr. Graves' hybrids are fruited in Connecticut in natural chestnut country where there are many diseased sprouts from the stumps of old American chestnuts. The susceptible hybrids are soon eliminated by natural infection. A more severe test is given, however, and the hybrids are inoculated artificially to insure that all are given an opportunity to demonstrate any blight resistance which they may possess. This test is repeated for three years.

Dr. Graves finds that, with a few exceptions, the Japanese-American hybrids are susceptible. Two have shown absolute resistance, as have two trees of the Chinese species and one of the Japanese species. In general, the Chinese are the most resistant of all the trees, with the Japanese considerably behind. The Spanish chestnuts are very low in resistance, and the American chestnut is poorest of all in this respect.

The best hybrids so far, from a timber standpoint, are from the Japanese-American combination, one tree of which has attained a height of 24 feet and a diameter of six inches in seven years.—GEORGE L. SLATE, Sec'y, Northern Nut Growers' Assn., Geneva, N. Y.

Letters to the Editors

SAYS "CHAINS" HURT FARMER

Gentlemen:

And you, too, have been seduced by the Chains. I have just read the advertisement in your November issue, "A Statement of Public Policy by the Great Atlantic and Pacific Tea Company," and I am especially interested in that part of the document which refers to "The Interests of the Farmer."

This statement is a gross misrepresentation of fact and is designed to deceive the unthinking farmer and to convert him to the belief that chain store organizations offer an outlet for farmers' products which would be denied if they were put out of business.

It is the policy of CHAINS to undersell their competitors, especially home-owned food purveyors, and in order to do this they must underbuy their competitors because it has been definitely established that a home-owned retailer can operate his business at a lower overhead than can a chain. Being very large buyers, chains offer inducements and force farmers to

sell their products at lower prices than the same products can be sold to independent food purveyors where such competition does not exist.

It has been definitely established beyond any question of doubt that the operation of chain food stores is a depressing influence upon farm prices and is destructive of the very best interests of our farm groups. There are many instances where chains have put pressure upon producer groups to force the sale of products below production cost in order to enable them to advertise bargains.

The publication of this statement, the acceptance of this advertising and the publication of the very fine illustrated article are the result of carefully designed propaganda. I am amazed that Mr. Keller, Mr. Lyman, Mr. Miller and Mr. Case lend themselves to this type of propaganda.

If we had no chain food stores the food producing industry would be infinitely better off. It is a well known but lamentable fact that the consumer pays higher average prices in most chain stores than the same goods can be bought from a reliable home-owned merchant.

Chain store employees are notoriously underpaid. Chain management needs no sympathy. They have wantonly destroyed many hundreds of home-owned stores which have added to the tragedy of the lives of thousands of little merchants, many of whom work in underpaid occupations in chain store organizations.

If you would serve the best interests of those who promote the welfare of your publication you would not be lured into the publication of an article of this character by the bait of paid advertising.

I challenge you to publish this letter in your magazine.—JOHN NAPIER DYER, McKenney Farms, Vincennes, Ind.

SAYS "CHAINS" HELP FARMER

"It is not necessary to go into a list of the advantages and disadvantages of the chain stores. Most thinking readers can figure them out for themselves. It is hard to see how either the position of farmers or of consumers would be improved by eliminating the services of a system that has shown marked efficiency in distribution, that has been a great aid in the movement of surpluses and that is affording a cash outlet to countless farmers without the necessity of standing on the market for hours at a time."—Excerpt from editorial, *Market Growers Journal*, November 1, 1938.

GRAPES—12 CONCORDS 50c

POSTPAID. One year. Well rooted. Real bargains on large lots. 10 Everblooming Hones 1 yr. all different \$1.00 postpaid. 45 Russian Mulberry, a 50 ft. Hedge for \$1.00. Over 100 bargains in our catalog. Big cash discount for early orders or will ship express C. O. D. if you prefer. Examine stock before you pay. Write today.

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Radio in Every Room

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IN KINGSTON, NEW YORK

THE GOVERNOR CLINTON

Headquarters Hotel for
1939 Eastern Convention and Show
N. Y. State Horticultural Society

DECEMBER, 1938

NEW

- SKID-JACK
- POISONING METHOD

By HANDY ANDY

Each day my mail brings more and more letters from fruit growers telling of their experiences with new products or how they have adapted some piece of equipment to new tasks. Some of them explain how new methods of fruit farm operations have been carefully and thoughtfully worked out. I'm only sorry that all of these can't be published here, for they are deeply appreciated, and, when space permits, we'll pass along the ideas to other readers.

SKID-JACK •

If you've been troubled by not having enough lift trucks to take care of the skids being used in your packing house and storage, or if your dead skid storage space is inadequate, you'll be interested in this new skid-jack. Features of this new equipment are a skid with wheels at one end and rigid legs at the other, and a wheeled jack or lifting unit.

To lift this handy skid, the jack is pushed



forward until the lifting stud is directly under the attaching socket. One stroke of the handle then converts the equipment into an easily movable unit. As pressure is applied, the stud lifts upward, raising the skid legs from the floor. When the handle reaches its lowest point, the union of jack and skid is automatically locked and the load is off the handle.

A foot pedal release makes lowering of the load easy. A special spring handle hold-up keeps the handle erect at all times when the truck is idle. The illustration on this page shows the unit ready for use with the jack in place.

It's always been more or less of a puzzle to me just why truck, tractor, and auto storage batteries give almost flawless service during the spring, summer, and fall, and then seem to lose their vitality or at least part of their pep when winter comes.

The other day I learned that action inside the battery cell is of a chemical nature, with the acid acting on and through the plates. When the temperature goes down, pores of the plates get smaller and the acid becomes thicker and heavier. As a result, the combination of the acid with the material in the plates, which accounts for battery current, becomes slower.

Ill effects to the battery are more noticeable if it is too small for the car, truck, or tractor, or if it is partially discharged. Besides the effect of colder weather on the

battery itself, the motors are harder to start because of congealed oil and because the gasoline vaporizes more slowly. Specialists on the battery situation say that batteries should be tested every two weeks in winter to make sure that water covers the plates and that cables and terminals are in good condition.

POISONING METHOD •

Advocated for many years has been the use of poison bait for eradication of rats and mice in orchards. Most printed material on the subject recommends the placement of the bait in cans or in burrows of the rodents. From the Mantle and Mantle Lake Erie Farm Orchards in Ohio comes word of a



new method for placing the bait to protect young trees. With this system, tubes about eight inches long are made from pieces of durable black paper which are held in tube form with rubber bands. The tubes are placed about the trunks of the young trees and the poisoned oats bait is sprinkled inside of the tubes.

Theory in back of the idea, says Lee Mantle, is to catch the rat or mouse just when he's expecting to have a hearty meal of tree bark. Instead, he finds the more appealing bait after working under the paper tube and thus eats enough of the poison bait to insure certain death.

In the photo above Mr. Mantle is holding a handful of the tubes before taking them out to the orchard. He remarks that assembly of the tubes and their placement on the trees is rapid after a little practice and that the poison bait is easily carried about in buckets.

FLUORINE TOLERANCE

Growers using cryolite or other forms of fluorine for control of orchard insect pests will be interested in announcement just made by Secretary of Agriculture Henry A. Wallace setting the fluorine tolerance at 0.02 grain per pound of fruit. Former tolerance was 0.01 grain per pound.

FRUIT FATAL TO A. BUG!



Augustus Bug, prominent pest, met with sudden death last night while opening an Orchard Banquet. Also mortally stricken were Flea

Weevil, Codling Moth, the Curculios, and other chewing insects. Officials said *Alorco Cryolite*...

Seriously, *Alorco Cryolite* does its job. And the fine particles cover more surface, stick better. Buy from your dealer, or write distributors for information. **ALUMINUM ORE COMPANY**, (Sales Agent: ALUMINUM COMPANY OF AMERICA, Pittsburgh, Pa.)

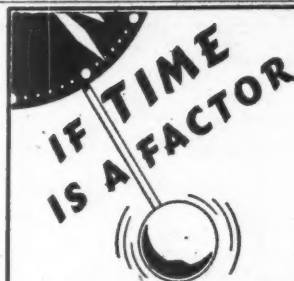
ALORCO CRYOLITE

Distributors:

E. I. DuPont de Nemours, Gracelli Chemical Dept., Wilmington, Del.



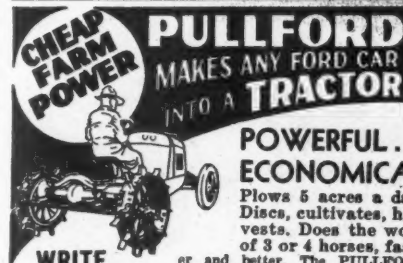
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POWERFUL... ECONOMICAL

Plows 5 acres a day. Discs, cultivates, harvests. Does the work of 3 or 4 horses, fast-

er and better.

WRITE for FREE Catalog Pictures, letters from users, details and LOW FACTORY PRICES.

The PULLFORD unit is quickly attached to Model Tor A Ford or to 1928-31 Chevrolet. It's simple, strong, built to last. Use your old car or buy one cheap, and get the advantages of power farming.

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SUCCESSFUL ORCHARDS

● A "ROUND TABLE" PAGE FOR EVERY GROWER ●

MESH GUARDS PROVIDE PROTECTION FOR TREES

WHEN rabbits began gnawing at trunks of young trees on the F. K. Starbird Springvallee Farms orchard in Ohio, it didn't take Manager Frank L. Bohn long to purchase mesh guards. Mr. Bohn says:

"Last spring we set out about 15 acres to apples, peaches, pears, cherries, and grapes. The trees were planted with peat moss and they grew fine. A few weeks after setting, we began to notice that rabbits were taking their toll among the trees. In some cases the bark of the young stock was stripped off entirely. I immediately ordered wire mesh guards. These were obtained locally, and it occurred to me that they could be securely fastened together with regular hog rings. Since placing the guards about the trees, we have had no further trouble from rabbits, and the trees are well along for their first season.

"I would advise growers planning to use this type of guard to get them high enough, about two feet, so the rabbits won't be able to get to the trees when they stand on their hind feet or when they climb up on drifted snow."

SUGGESTS WIDER SPACING IN SEMI-ARID REGIONS

NOT for some months have we had a "Round Table" contribution from New Mexico. We're glad, therefore, to hear from Arthur Hyde, who contributes the following:

"Here in our neighborhood we have what is beyond any doubt the oldest apple orchard in the United States. According to the historian, Bandelier, it must have been planted prior to 1676. The trees in these ancient orchards (there are two



PAGE 22

\$1.00

EACH FOR YOUR NEW IDEAS

Here, each month, growers get together to discuss experiences and ideas. The beginner as well as the veteran discovers many practical suggestions for better and more profitable fruit growing. You, too, have some experiences that will be helpful to fellow growers. Send them—briefly written on a penny card is satisfactory—to "ROUND TABLE EDITOR," AMERICAN FRUIT GROWER, 1370 Ontario St., Cleveland, Ohio. One dollar will be paid for each item published on this page.

separate plots) are planted very close together. Unfortunately, this is true of nearly all apple orchards in New Mexico.

"Considering our high elevations, scanty rainfall, and general scarcity of water for irrigation, it seems just common sense to assume that we should give our apple trees more space than is customary in more favored regions—say at least 40 feet."

BLACKBERRIES PRODUCE OFF-SEASON PROFITS

"EVEN on a small farm, a patch of blackberries will yield as much or more in returns on the investment than any of the various farm crops."

With this rather startling statement, A. M. Heistand leads off his discussion of the blackberry culture being carried on by his neighbors, the Trout brothers of Kansas. He also says, "The variety raised by the Trout brothers is the Early Harvest. Berries from the one-acre patch start to ripen about the second week in June, just when poultry and egg prices are lower and the hens are letting up on egg production.

"These small-fruit enthusiasts keep the planting in neat rows; cultivate carefully the first year, and then mulch heavily with

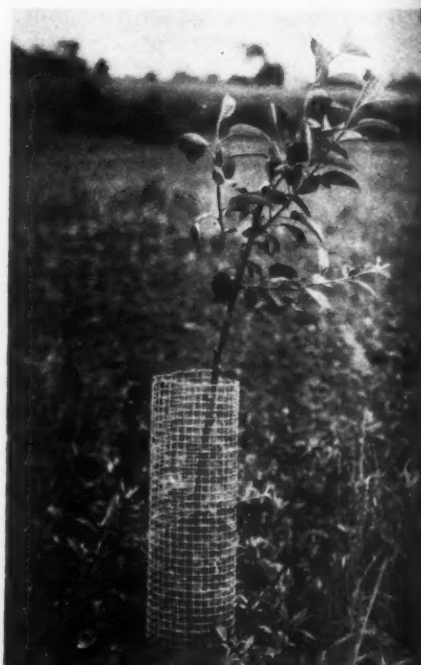
hay or straw. When plants become full-grown, ends are pinched off so they will stool out and form a low, compact bush. They start with a few hundred plants and after the first year there are plenty of new plants to enlarge the field. Pruning and other work on the berry patch is done for the most part at a time when the other farm work is not pressing.

"Those who come to buy fruit pick their own berries. Buckets are provided by the Trout brothers. Over a period of 10 years the demand has always exceeded the supply. It's no unusual sight to see six to eight cars parked at the Trout farm daily. The berry patch yields an average of 400 gallons a season and prices vary from 40 to 60 cents a gallon. After harvest, the old canes are removed and the new ones tipped for the next year's crop."

HALF-BUSHEL CONTAINER MOVES PEACHES BETTER

THAT more convenient containers can influence fruit sales is pointed out in the following remarks of Alvin O. Eckert, well-known Illinois grower.

"We do not use bushel baskets for peaches. Two or three years ago we decided to try marketing in half-bushel baskets. We approached the man who had been handling our peaches and told him we were going to put them up in half bushels. He said it would be a lot of trouble and he couldn't bother with them, but he told us to send a few over. We sent him 100 baskets. He called up at nine o'clock that morning and wanted to know what to do, the peaches were not selling. In the meantime we advertised in a St. Louis newspaper. About three days later, this same man called up and wanted some more peaches. The next day he offered 95 cents and the day after that a dollar."



Left—Frank L. Bohn, orchard manager of the Springvallee Farms in northern Ohio, holds one of the wire mesh tree guards mentioned above. Right—Tree guard in place, giving ample protection to young tree against rodents.

AMERICAN FRUIT GROWER

DECEMBER, 1939

Aphis **C**ontrol with a capital "C"

when you use DOWSPRAY DORMANT



Read these Results

Look at these figures. They prove that aphis is no match for Dowspray* Dormant. What's more, these figures are the results of using Dowspray Dormant in regular commercial orchards during a heavy aphis year. Other tests made* with Dowspray Dormant show its control effectiveness in many cases to be as high as 98%.

DOWSPRAY DORMANT PUTS PUNCH IN PROTECTION

Spray results like these mean profits. This year use Dowspray Dormant—lick aphis at the start. Remember that Dowspray Dormant is effective against more

Comparison between aphis-infested spurs on trees sprayed with Dowspray Dormant and on unsprayed check trees in same orchard.

Orchard No. 1 Variety	Aphis-Infested Spurs or Shoots On	
	Trees Not Sprayed	Trees Sprayed
Chenango Strawberry.....	3337	0
Rhode Island Greenings....	1444	48
Jonathon.....	807	19
Orchard No. 2		
Chenango Strawberry.....	2167	134
Rhode Island Greenings....	705	20
Orchard No. 3		
Chenango Strawberry.....	467	16

insects than any other dormant spray available.

Dowspray Dormant is the most

economical spray material you can use. It is non-irritating to workers—a big feature in spring spraying. It deposits less oil per tree, can't harm spray equipment. It is non-freezing, contains no water—you pay no useless freight charges. The emulsifier furnished with Dowspray Dormant makes it fast and easy to prepare.

Keep everything under control. Decide on Dowspray Dormant.

THE DOW CHEMICAL COMPANY
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*Trade Mark Reg. U. S. Pat. Off.

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FOR Rosy apple aphis, early green aphis, cherry aphis, San José scale, scurfy scale, bud moth, pear psylla, and European red mite.

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— Mail Coupon Below

Trees—Send for It—Full of Help for YOU! "Every Stark Tree in my orchard is a Money-Maker—STARKING, GOLDEN DELICIOUS and other HIGH QUALITY APPLES, as well as STARK RECORD-BEARING STRAIN PEACHES; last year buyers came to my door and PAID ME THE BIGGEST PROF-ITS I ever made—and this year PRICES ARE DOUBLE THOSE OF LAST YEAR."

Does money grow on STARK Trees—let Frank Penstone, Illinois farmer, tell you: "Every Stark Tree in my orchard is a Money-Maker—STARKING, GOLDEN DELICIOUS and other HIGH QUALITY APPLES, as well as STARK RECORD-BEARING STRAIN PEACHES; last year buyers came to my door and PAID ME THE BIGGEST PROF-ITS I ever made—and this year PRICES ARE DOUBLE THOSE OF LAST YEAR."

\$1140.00 From One Acre GOLDEN DELICIOUS

FOR HIS CROP OF GOLDEN DELICIOUS on ONE ACRE, N. Y. Yates, Indiana, RECEIVED \$1140.00. "I wish I had 5000 GOLDEN DELICIOUS TREES," writes Mr. Yates.

\$426.33 INCOME PER ACRE

"9 1/4 acres planted to Stark GOLDEN DELICIOUS and RED DELICIOUS APPLE TREES, 8 to 15 years old, brought us \$4050.00 last year or an AVERAGE OF \$426.33 PER ACRE. GOLDEN DELICIOUS VERY POPULAR with our trade, brings 33 1/3% more per bushel than ORDINARY varieties," says R. L. Wallace, Tennessee.

\$600.00 From 2 1/3 ACRE of PEACHES!

L. H. Christ, Missouri, reports \$600.00 net profit from 2 1/3 acre of JULY ELBERTA and HAL-BERTA Giant Peach Trees in one crop. "I have a bumper crop (1938) bringing \$3.00 to \$3.50 a bu."

These are a few samples the Big FREE Book brings you, of the many ACTUAL Growers' reports from all sec-tions of CASH PROFITS from sturdy, heavy-bearing Stark Trees. Follow the road to SUCCESS—plant Stark Record-Bearing Strain Trees, the most dependable pro-ducers. Mail Coupon.

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is carrying forward the great scientific work of Luther Burbank. Stark Bro's, successors to Luther Burbank, have exclusive Propagation, Control and Sale of BURBANK'S NEW CREATIONS.



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Now! STARKING (Trade-mark) Double-Red Delicious

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